Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
Permit: F-20-015
Dr. Schneider Automotive Systems, Inc.
223 Progress Drive
Russell Springs, KY 42642
April 27, 2020
Jonathon Hughes, Reviewer

SOURCE ID:	21-207-00030
AGENCY INTEREST:	84265
ACTIVITY:	APE20200001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 2821, Plastics Material and Resin Manufacturing

Single Source Det. ☐ Yes ☒ No If Yes, Affiliated Source AI:

Source-wide Limit ☒ Yes ☐ No If Yes, See Section 4, Table A

28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Russell
Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead
If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☒ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No
If yes, list which pollutant(s):

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:
The facility manufactures plastic injection molded parts for BMW and Mercedes.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-20-015 Activities: APE20200001

Received: March 31, 2020 Application Complete Date(s): April 27, 2020

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative

Construction/Modification Requested? ☐Yes ☒No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action ☐Yes ☒No

Description of Action:
Renewal permit with no requested construction. Facility indicates only change is 15 new plastic molding machines (EU 01) and this change has already occured. This changes the number of machines from 23 to 38.

F-20-015 Emission Summary				
Pollutant	2018 Actual (tpy)	Previous PTE F-15-028 (tpy)	Change (tpy)	Revised PTE F-20-015 (tpy)
CO	0.134	2.30	0	2.30
NO_X	0.160	2.74	0	2.74
PT	3.85	15.0	0.4	15.4
PM_{10}	3.85	15.0	0.4	15.4
$PM_{2.5}$	1.73	6.71	0.19	6.90
SO_2	0.001	0.016	0	0.016
VOC	24.0	165	0	165
Lead	0	0	0	0
Greenhouse Gases (GHGs)				
Carbon Dioxide	192	3287	0	3287
Methane	0.004	0.06	0	0.06
Nitrous Oxide	0.004	0.06	0	0.06
CO_2 Equivalent (CO_2e)	193	3307	0	3307
Hazardous Air Pollutants (HAPs)				
Glycol Ethers	0.246	3.11	0	3.11
Ethyl Benzene	0.178	2.55	0	2.55
Xylenes	0.535	8.99	0	8.99
Combined HAPs:	0.959	15.1	0	15.1

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit #01 Plastic Injection Molding Machines (Insignificant Activity)				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	Source wide 90 tpy	401 KAR 52:030	Michigan DEQ Plastic Production & Products Manufacturing-Molding Machine, Fact Sheet #9847	Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)		Assumed based on throughput and emission factors
Opacity	20%	401 KAR 59:010, Section 3(1)	N/A	Monthly Visual Observation

Initial Construction Date: 2014

Process Description:
Thirty-Eight (38) injection molding machines at the facility with different resin throughput rates operate at the facility. EU01 is listed as an insignificant activity in SECTION C of the permit. The emissions are uncontrolled.

Applicable Regulations:

401 KAR 59:010, This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

Comments:
Source added 15 machines between F-15-028 and this renewal F-20-015 for a current total of 38.

Emission Unit #02 Plastic Regrinders (Insignificant Activity)				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Michigan DEQ Plastic Production & Products Manufacturing-Molding Machine, Fact Sheet #9847	Assumed based on throughput and emission factors
Opacity	20%	401 KAR 59:010, Section 3(1)	N/A	Monthly Visual Observation

Initial Construction Date: 2014

Process Description:
There are nineteen (19) plastic regrind units at the facility. The regrind machines process resins. Regrind occurs on a maximum of 30 percent of the throughput injection molding machines at the facility with different resin throughput rates operate at the facility. EU02 is listed as an insignificant activity in SECTION C of the permit.

Applicable Regulations:

401 KAR 59:010, This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

Comments:
None

Emission Unit #03 Plastic Injection Molding Machines (Insignificant Activity)				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	Source wide 90 tpy	401 KAR 52:030	Michigan DEQ Plastic Production & Products Manufacturing-Molding Machine, Fact Sheet #9847	Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)		Assumed based on throughput and emission factors
Opacity	20%	401 KAR 59:010, Section 3(1)	N/A	Monthly Visual Observation

Initial Construction Date: 2014

Process Description:
A convey and transfer point is associated with delivering resins to the injection molders. The throughput is equal to sum of all injection molders and grinders. Emissions are uncontrolled. EU03 is listed as an insignificant activity in SECTION C of the permit.

Applicable Regulations:

401 KAR 59:010, This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

Comments:
None

Emission Unit #04 Aerosol Grease (Insignificant Activity)

Initial Construction Date: 2014

Process Description:
Aerosol grease is used within the injection mold machine process for lubrication. Emissions are uncontrolled. EU04 is listed as an insignificant activity in SECTION C of the permit.

Applicable Regulation:
None

Comments:
Only VOC is emitted.

Emission Unit #05 Aerosol Mold Release/Degreaser (Insignificant Activity)				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	Source wide 90 tpy	401 KAR 52:030	Material Balance and MSDS	Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)		Assumed based on throughput and emission factors
Opacity	20%	401 KAR 59:010, Section 3(1)	N/A	Monthly Visual Observation

Initial Construction Date: 2014

Process Description:
An aerosol mold release/degreaser is used to remove oil, grease, wax, moisture, dirt, and other contaminants from the injection molds. Emissions are uncontrolled. EU05 is listed as an insignificant activity in SECTION C of the permit.

Applicable Regulations:

401 KAR 59:010, This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

Comments:
None

Emission Unit #06 Paint Line				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	Source wide 90 tpy	401 KAR 52:030	Material Balance and MSDS	Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)		Wash wash system, 90% control
Opacity	20%	401 KAR 59:010, Section 3(1)	N/A	Weekly Visual Observation

Initial Construction Date: March 2016

Process Description:
The paint line coats plastic parts that are made through the injection molding process. The paint line consists of a cleaning station to remove dust from parts prior to coating and a robotic paint spray booth. The robotic paint spray booth includes two exhaust fans and a water wash system with particulate matter control 90% efficiency. The spray booth has eight (8) automatic spray guns with integrated pressure regulators. The paint booth is followed by a flash –off zone and two ovens (EU07).

Applicable Regulations:

401 KAR 59:010, This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

Comments:
401 KAR 63:002 Section 2(4)(uuu) 40 C.F.R. 63.4480 to 63.4581, Tables 1 to 4, and Appendix A (Subpart PPPP), National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products does not apply since the facility is not a major source of HAP emissions.
401 KAR 63:002 Section 2(4)(iiiii) 40 C.F.R. 63.11169 to 63.11180, Table 1 (Subpart HHHHHH), National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources does not apply since the facility does not conduct surface using the target HAPs.

Emission Unit #08 Comfort Heat Units (Insignificant Activity)

Initial Construction Date: 2014

Process Description:
Nine (9) natural gas space heaters with total rated capacity of 3.33 MMBtu/hr. EU08 is listed as an insignificant activity in SECTION C of the permit.

Applicable Regulation:
None

Comments:
None

Emission Unit #09 Parts Washer (Insignificant Activity)

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC	Source wide 90 tpy	401 KAR 52:030	Material Balance and MSDS	Recordkeeping, 12 month rolling total

Initial Construction Date: 2014

Process Description:
A parts washer unit with maximum throughput of 360 gallons per year. Emissions are uncontrolled. EU09 is listed as an insignificant activity in SECTION C of the permit.

Applicable Regulations:

401 KAR 63:020, Potentially hazardous matter or toxic substances, is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances.

Comments:
None

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

N/A

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tpy of VOC emissions	401 KAR 52:030, *Federally-enforceable permits for nonmajor sources*	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, New process operations	01, 02, 03, 05, 06
401 KAR 63:020, *Potentially hazardous matter or toxic substances.*	EU 01, 03, 05, 06, 09

Table C - Summary of Precluded Regulations:
N/A

Table D - Summary of Non Applicable Regulations:
N/A

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*
The Division for Air Quality (Division) has performed SCREEN View on April 27, 2020 of potentially hazardous matter or toxic substances (Ethyl Benzene, Xylene, Glycol Ether, Styrene, Toluene and Methanol) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination
N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
F-15-028	Initial	APE20150002	7/16/2015	10/16/2015	Initial Construction Permit	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS – Ambient Air Quality Standards
BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CO – Carbon Monoxide
Division – Kentucky Division for Air Quality
ESP – Electrostatic Precipitator
GHG – Greenhouse Gas
HAP – Hazardous Air Pollutant
HF – Hydrogen Fluoride (Gaseous)
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NO_x – Nitrogen Oxides
NSR – New Source Review
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
PTE – Potential to Emit
SO_2 – Sulfur Dioxide
TF – Total Fluoride (Particulate & Gaseous)
VOC – Volatile Organic Compounds